

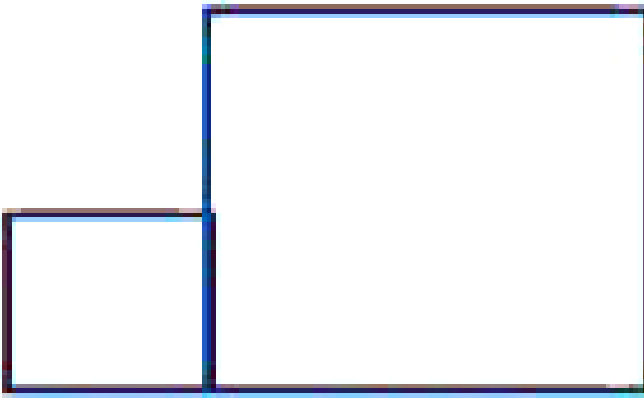
MATHS

BOOKS - NCERT EXEMPLAR

MENSURATION

Solved Example

1. In Fig 6.1, a square of side 1 cm is joined to a square of side 3 cm. The perimeter of the new figure



is



A. 13cm

B. 14cm

C. 15cm

D. 16cm

Answer: B



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2. Which of the following statements are true or false?

(a) Geeta wants to raise a boundary wall around her house. For this, she must find the area of the land of her house.

(b) A person preparing a track to conduct sports must find the perimeter of the sports ground.



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3. Fill in the blanks to make the statements true:

(a) Perimeter of a triangle with sides 4.5cm, 6.02cm

and 5.38cm is.....

(b) Area of a square of side 5cm is.....



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4. Bhavna runs 10 times around a square field of side 80m. Her sister Sushmita runs 8 times around a rectangular field with length 150m and breadth 60m. Who covers more distance? By how much?



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5. The length of a rectangular field is thrice its breadth. If the perimeter of this field is 800m, what is the length of the field?



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6. Cost of fencing around a square field is Rs. 12000. If the cost of fencing per metre is Rs. 30, find the area of the square field.



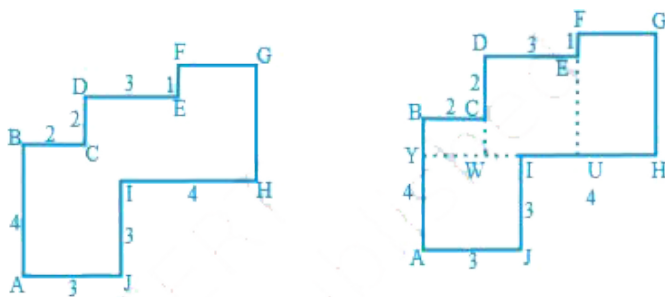
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7. Sabina wants to cover the floor of her room whose length is 4 m and breadth is 3m by square tiles. If each square tile is of side 20cm. then find the number of tiles required to cover the floor of her room.

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8. By splitting the figure into rectangles, find its

area



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Exercise Multiple Choice Questions

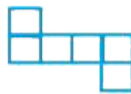
1. Following figures are formed by joining six unit squares. Which figure has the smallest perimeter in



(i)



(ii)



(iii)



(iv)

Fig. 6.4?

A. (ii)

B. (iii)

C. (iv)

D. (i)

Answer:



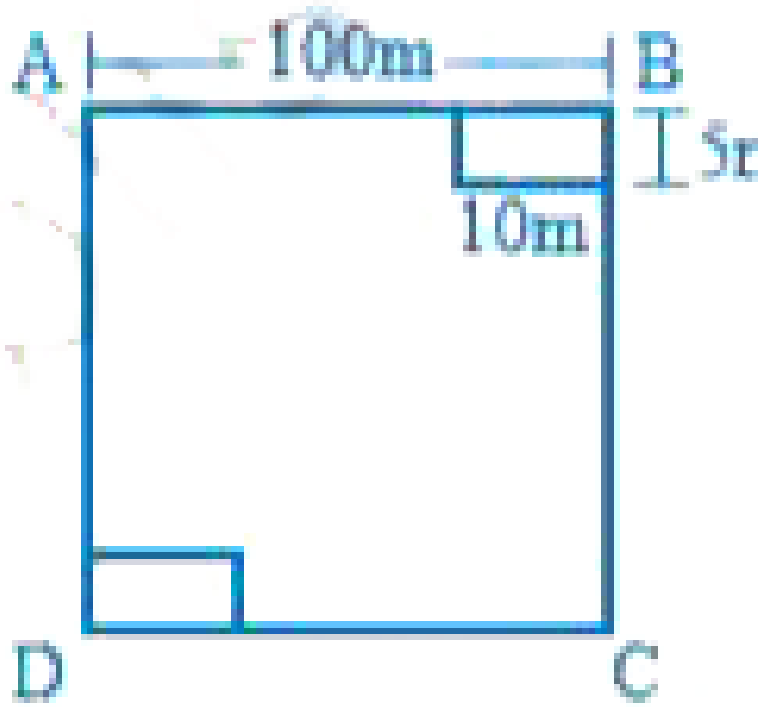
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2. A square shaped park ABCD of side 100m has B two equal rectangular flower beds each of size $10m \times 5m$ (Fig. 6.5). Length of the boundary of the

remaining

park

is



A. 360m

B. 400m

C. 340m

D. 460m

Answer:



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3. The side of a square is 10cm. How many times will the new perimeter become if the side of the square is doubled?

A. 2 times

B. 4 times

C. 6 times

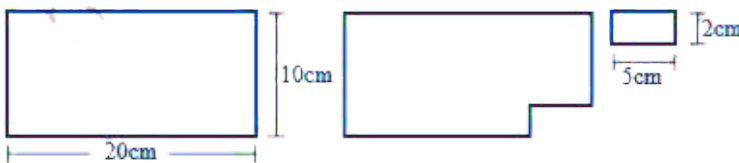
D. 8 times

Answer: A



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4. Length and breadth of a rectangular sheet of paper are 20cm and 10cm, respectively. A rectangular piece is cut from the sheet as shown in Fig. 6.6. Which of the following statements is correct for the remaining sheet?



A. Perimeter remains same but area changes.

B. Area remains the same but perimeter changes.

C. Both area and perimeter are changing.

D. Both area and perimeter remain the same.

Answer:



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5. Two regular Hexagons of perimeter 30cm each are joined as shown in Fig. 6.7. The perimeter of the

new

figure

is



A. 65cm

B. 60cm

C. 55cm

D. 50cm

Answer:



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6. In Fig. 6.8 which of the following is a regular polygon? All have equal side except (i)



(i)



(ii)



(iii)



(iv)

A. (i)

B. (ii)

C. (iii)

D. (iv)

Answer:



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Exercise

1. Match the shapes (each sides measures 2cm) in column 1 with the corresponding perimeters in



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2. Match the following

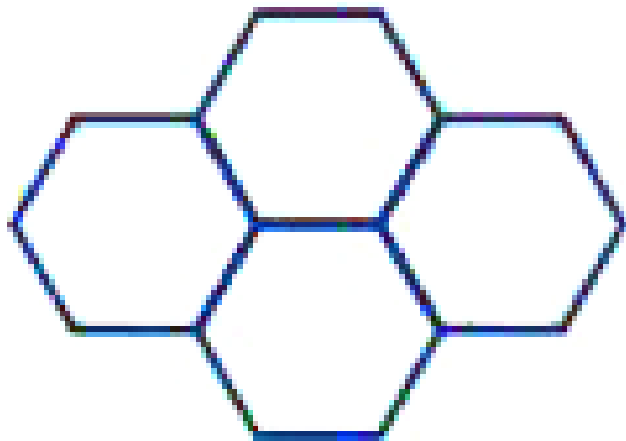
Shapes	Perimeter
(A)  rectangle	(i) 10
(B)  square	(ii) 18
(C)  equilateral triangle	(iii) 20
(D)  isosceles triangle	(iv) 25



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3. Four regular hexagons are drawn so as to form the design as shown in Fig. 6.11. If the perimeter of

the design is 28cm, find the length of each side of the hexagon.



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4. Perimeter of an isosceles triangle is 50cm. If one of the two equal sides is 18cm, find the third side.



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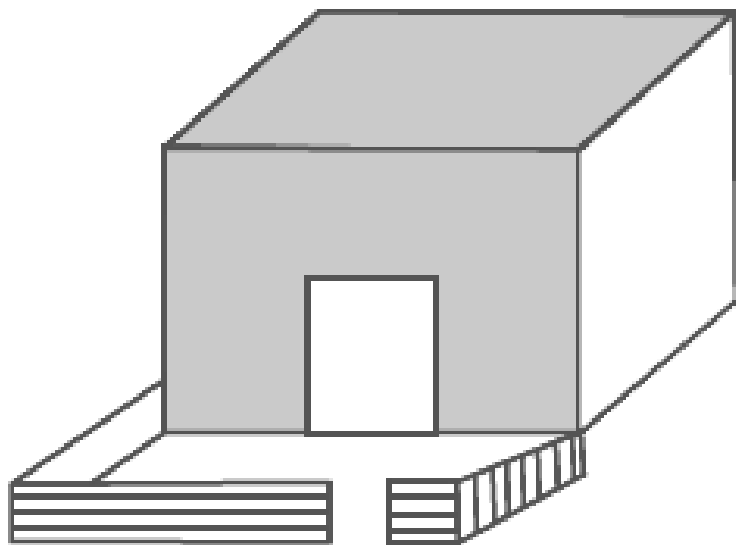
5. Length of a rectangle is three times its breadth and the perimeter of the rectangle is 40cm. Find its length and width.



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6. There is a rectangular lawn 20m long and 6m wide in front of a house (Fig. 6.12). It is fenced along the two smaller sides and one longer side leaving a gap of 4m for the entrance. Find the length of

fencing.



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7. The region given in Fig. 6.13 is measured by taking

as a unit.

What is the area of the region?

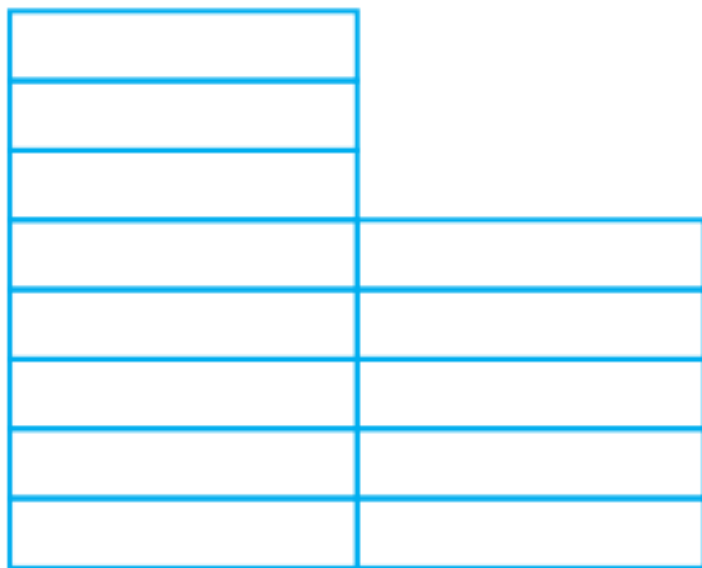


Fig. 6.13



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8. Tahir measured the distance around a square field as 200 rods (lathi). Later he found that the

length of this rod was 140cm. Find the side of this field in metres.



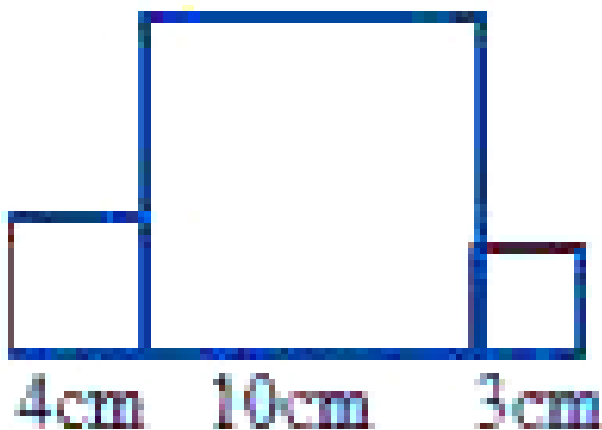
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9. The length of a rectangular field is twice its breadth. Jamal jogged around it four times and covered a distance of 6km. What is the length of the field?



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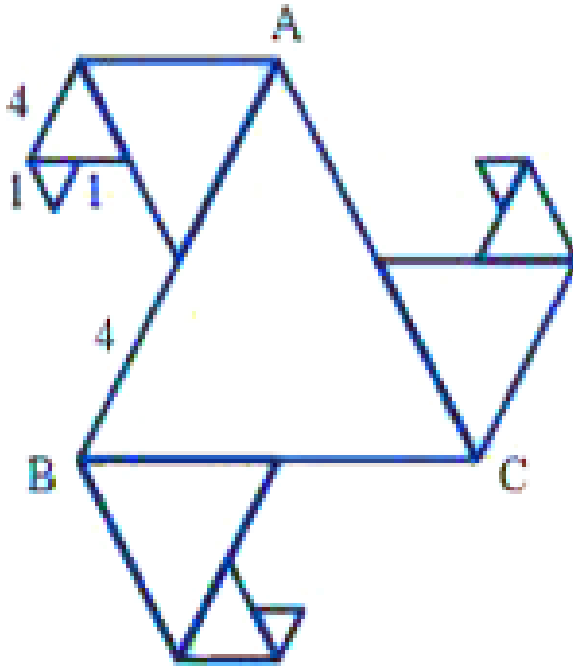
10. Three squares are joined together as shown in Fig. 6.14. Their sides are 4cm, 10cm and 3cm. Find the perimeter of the figure.



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11. In Fig. 6.15 all triangles are equilateral and $AB = 8$ units. Other triangles have been formed by taking

the mid points of the sides. What is the perimeter of the figure?



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12. Length of a rectangular field is 250m and width is 150m. Anuradha runs around this field 3 times.

How far did she run? How many times she should run around the field to cover a distance of 4km?



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13. Bajinder runs ten times around a square track and covers 4km. Find the length of the track.



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14. The lawn in front of Molly's house is $12m \times 8m$, whereas the lawn in front of Dolly's house is

$15m \times 5m$. A bamboo fencing is built around both the lawns. How much fencing is required for both?



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15. The perimeter of a regular pentagon is 1540cm. How long is its each side?



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16. The perimeter of a triangle is 28cm. One of its sides is 8cm. Write all the sides of the possible isosceles triangles with these measurements.



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17. The length of an aluminium strip is 40cm. If the lengths in cm are measured in natural numbers, write the measurement of all the possible rectangular frames which can be made out of it. (For example, a rectangular frame with 15cm length and 5cm breadth can be made from this strip.)



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18. Base of a tent is a regular hexagon of perimeter 60cm. What is the length of each side of the base?



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19. In an exhibition hall, there are 24 display boards each of length 1m 50cm and breadth 1m. There is a 100m long aluminium strip, which is used to frame these boards. How many boards will be framed using this strip? Find also the length of the aluminium strip required for the remaining boards.



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20. A school has 24 display boards in the shape of a rectangle with length 1 m 50 cm and breadth 1 m.

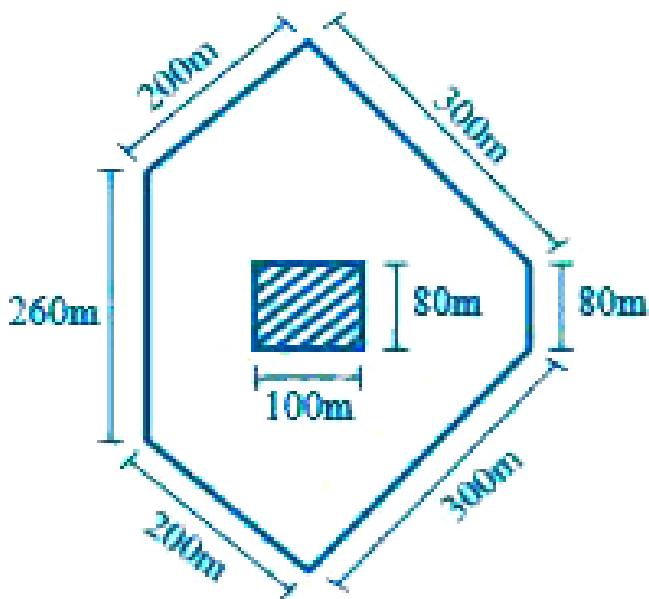
How many square meters of cloth is required to cover all the display boards? What will be the length in m of the cloth used, if its breadth is 120 cm?



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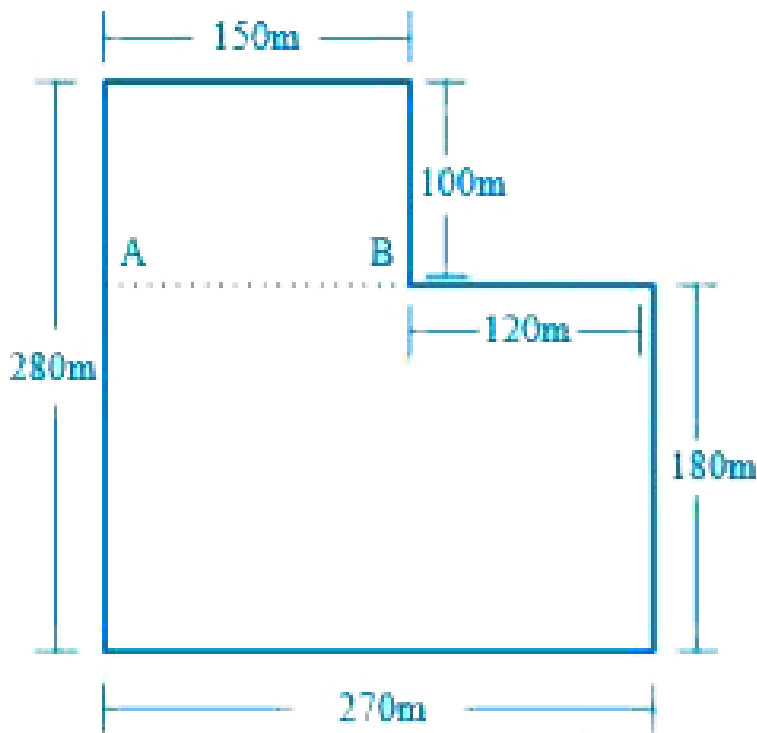
21. What is the length of outer boundary of the park shown in Fig. 6.16? What will be the total cost of fencing it at the rate of Rs 20 per metre? There is rectangular flower bed in the centre of the park. Find the cost of manuring the flower bed at the

rate of Rs 50 per square metre.



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22. Total cost of fencing the park shown in Fig. 6.17 is Rs 55000. Find the cost of fencing per metre.



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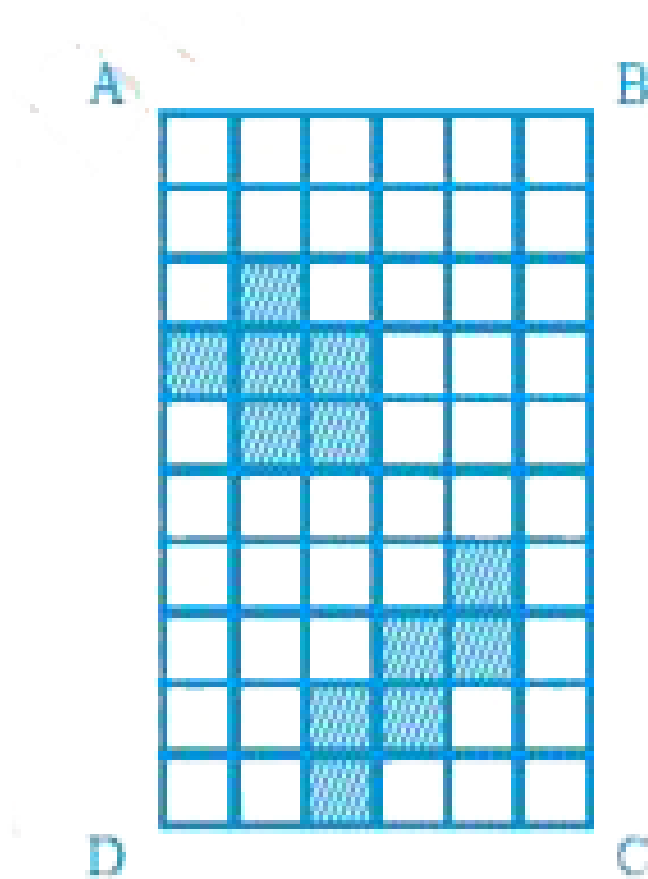
23. In Fig. 6.18 each square is of unit length

(a) What is the perimeter of the rectangle ABCD?

(b) What is the area of the rectangle ABCD?

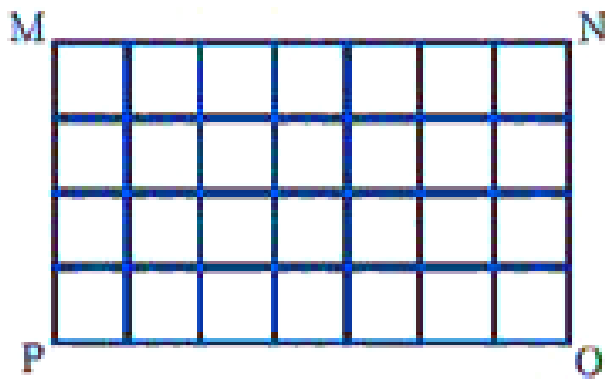
(c) Divide this rectangle into ten parts of equal area by shading squares. (Two parts of equal area are shown here)

(d) Find the perimeter of each part which you have divided. Are they all equal?



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24. Rectangular wall MNOP of a kitchen is covered with square tiles of 15cm length (Fig. 6.19). Find the area of the wall.

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25. Length of a rectangular field is 6 times its breadth. If the length of the field is 120cm, find the breadth and perimeter of the field.



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26. Anmol has a chart paper of measure $90\text{cm} \times 40\text{cm}$, whereas Abhishek has one which measures $50\text{cm} \times 70\text{cm}$. Which will cover more area on the table and by how much?



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27. A rectangular path of 60m length and 3m width is covered by square tiles of side 25cm. How many tiles will there be in one row along its width? How many such rows will be there? Find the number of tiles used to make this path?



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28. How many square slabs each with side 90cm are needed to cover a floor of area 81sqm.



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29. The length of a rectangular field is 8m and breadth is 2m. If a square field has the same perimeter as this rectangular field, find which field has the greater area.



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30. Parmindar walks around a square park once and covers 800m. What will be the area of this park?



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31. The side of a square is 5cm. How many times does the area increase, if the side of the square is doubled?



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32. Amita wants to make rectangular cards measuring $8\text{cm} \times 5\text{cm}$. She has a square chart paper of side 60cm. How many complete cards can she make from this chart? What area of the chart paper will be left?



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33. A magazine charges Rs 300 per 10sqcm area for advertising. A company decided to order a half page advertisement. If each page of the magazine is $15\text{cm} \times 24\text{cm}$. what amount will the company has to pay for it?



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34. The perimeter of a square garden is 48m. A small flower bed covers 18sqm area inside this garden. What is the area of the garden that is not covered by the flower bed? What fractional part of

the garden is covered by the flower bed and the remaining area?



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35. Perimeter of a square and a rectangle is same. If a side of the square is 15cm one side of the rectangle is 18cm, find the area of the rectangle.



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36. A wire is cut into several small pieces. Each of the small pieces is bent into a square of side 2cm. If

the total area of the small squares is 28 square cm,
what was the original length of the wire?



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37. Divide the park shown in figure into two rectangles. Find the total area of this park. If one packet of fertilizer is used for 300sq m, how many packets of fertilizer are required for the whole park?



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38. The area of a rectangular field is 1600sqm. If the length of the field is 80m, find the perimeter of the field.



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39. The area of each square on a chess board is 4sqcm. Find the area of the board.

(a) At the beginning of game when all the chess men are put on the board, write area of the squares left unoccupied.

(b) Find the area of the squares occupied by chess men.



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40. (a) Find all the possible dimensions (in natural numbers) of a rectangle with a perimeter 36cm and find their areas.

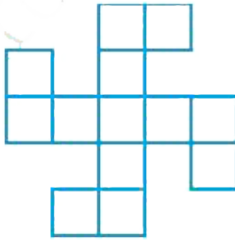


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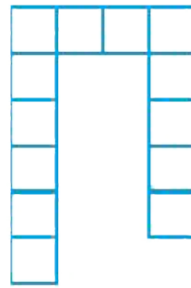
41. Find the area and Perimeter of each of the following figures, if area of each small square is 1



(i)



(ii)



(iii)

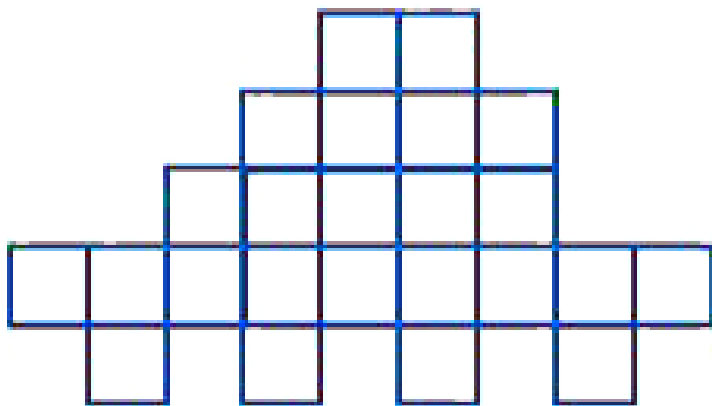
sqcm.



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42. What is the area of each small square in Fig. 6.21 if the area of entire figure is 96 sqcm. Find the

perimeter of the figure.



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Exercise Fill In The Blanks

1. Perimeter of the shaded portion in Figr 6.9 is

$AB + __ + __ + __ + __ + HA$



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2. The amount of region enclosed by a plane closed figure is called its.....



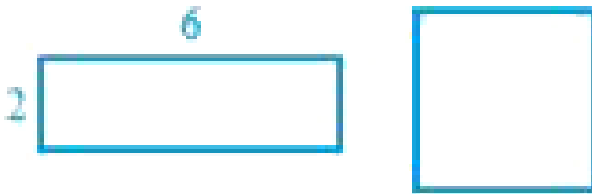
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3. Area of a rectangle with length 5cm and breadth 3cm is.....



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4. A rectangle and a square have the same perimeter (Fig. 6.10).



(a) The area of the rectangle is.....

(b) The area of the square is.....

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5. (a) $1\text{m} = \dots\dots\dots\text{cm}$

(b) $1\text{sqcm} = \dots\dots\dots\text{cm} \times 1\text{cm}$

(c) _____)

$$1sqm = 1m \times \dots\dots\dots m = 100cm \times \dots\dots\dots cm$$

(d) $1sqm = \dots\dots\dots sqcm$



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Exercise True Or False

1. If length of a rectangle is halved and breadth is doubled then the area of the rectangle obtained remains same.



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2. Area of a square is doubled if the side of the square is doubled.



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3. Perimeter of a regular octagon of side 6cm is 36cm.



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4. A farmer who wants to fence his field, must find the perimeter of the field.



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5. An engineer who plans to build a compound wall on all sides of a house must find the area of the compound.



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6. State True or False:

To find the cost of painting a wall we need to find the perimeter of the wall.



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7. Write True or False:

To find the cost of a frame of a picture, we need to find the perimeter of the picture.



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